What is claimed is:

1. A lubricating method for a rolling bearing assembly for supplying a lubricant oil to the rolling bearing assembly during an operation of the rolling bearing assembly, characterized in that the amount of the lubricant oil supplied during the operation of the rolling bearing assembly is adjusted for suppressing a temperature rise of the rolling bearing assembly.

2. The lubricating method for the rolling bearing assembly as claimed in Claim 1, wherein the supply of the lubricant oil is carried out in a state of air/oil mixture.

3. The lubricating method for the rolling bearing assembly as claimed in Claim 1, wherein the amount of the lubricant oil to be supplied during the operation is adjusted in dependence on the rotational speed of the rolling bearing assembly.

4. The lubricating method for the rolling bearing assembly as claimed in Claim 3, wherein data on increase of the temperature of the rolling bearing assembly in dependence on the rotational speed are sampled under a plurality of lubricating conditions with different amounts of the lubricant oil to be supplied, and based on the result of sampling, the amount of the lubricant oil to be supplied is adjusted in dependence on the rotational speed.

5. The lubricating method for the rolling bearing assembly as claimed in Claim 4, wherein when the sampling data are expressed in a graph having the axis of abscissa representing the rotational speed and the axis of ordinates representing the bearing temperature, the lubricating condition is changed in dependence on the rotational speed to take a combination of the lubricating conditions effective to substantially avoid generation of a point of maximum or to lower the point of maximum.

6. The lubricating method for the rolling bearing assembly as claimed in Claim 3, wherein change of the amount of the lubricant oil to be supplied during

the operation is automatically performed in response to an information signal indicative of the rotational speed, in dependence on a preset condition.

7. The lubricating method for the rolling bearing assembly as claimed in Claim 1, wherein change of the amount of the lubricant oil to be supplied during the operation is performed manually.

8. A lubricating device for the rolling bearing assembly, which comprises a lubricant supply unit for supplying a lubricant oil during the operation of the rolling bearing assembly, and a supply adjusting unit for ordering the lubricant supply unit to change the amount of the lubricant oil to be supplied in dependence on preset conditions.

9. The lubricating device for the rolling bearing assembly as claimed in Claim 8, wherein the lubricant supply unit is operable to discharge an air/oil mixture towards the rolling bearing assembly.

10. The lubricating device for the rolling bearing assembly as claimed in Claim 8, wherein the supply adjusting unit is operable to order the lubricant supply unit to change the amount of the lubricant oil to be supplied in dependence on the rotational speed, so far as the preset condition is associated with the rotational speed of the rolling bearing assembly.

11. The lubricating device for the rolling bearing assembly as claimed in Claim 10, wherein the amount of the lubricant oil to be supplied is preset for each of a plurality of divided rotational speed regions of the rolling bearing assembly and the supply adjusting unit is operable to select one of the preset amounts of the lubricant oil to be supplied according to an input information on the rotational speed.

12. The lubricating device for the rolling bearing assembly as claimed in Claim 8, wherein the lubricant supply unit supplies the lubricant oil intermittently and the supply adjusting unit is operable to change the interval of supply of the lubricant oil performed by the lubricant supply unit.

13. The lubricating device for the rolling bearing assembly as claimed in Claim 8, wherein the rolling bearing assembly is used to support a spindle of a machine tool.

14. An air/oil lubricating structure for a rolling bearing assembly, wherein an outer peripheral surface of an inner race of the rolling bearing assembly is provided with an inclined surface area continued to a raceway of the inner race; a nozzle member is provided along the inclined surface area with a gap formed therebetween; an air/oil discharge port opening towards the inclined surface area is provided in the nozzle member; and the angle of inclination α of the inclined surface area in the inner race relative to the axial direction of the rolling bearing assembly is chosen to satisfy the following relation:

$$\alpha \geq 0.0667 \times dn \times 10^{-4} - 1.8333$$

wherein dn represents the product of the inner diameter (mm) of the bearing assembly multiplied by the rotational speed (min^{-1}).

15. The air/oil lubricating structure for the rolling bearing assembly as claimed in Claim 14, wherein the angle of inclination α of the inclined surface area has the following relation with the discharge angle β formed between the direction of discharge of the air/oil mixture from the discharge port and the axial direction of the rolling bearing assembly:

$$\alpha < 90° - \beta$$

16. The air/oil lubricating structure for the rolling bearing assembly as claimed in Claim 14, wherein the nozzle member is provided with a circumferentially extending discharge groove for the air/oil mixture, which opens towards the inclined surface area, with the discharge port of the nozzle member opening towards the discharge groove.

17. The air/oil lubricating structure for the rolling bearing assembly as claimed in Claim 14, wherein the inclined surface area of the inner race is formed with a circumferentially extending groove and the discharge port of the nozzle

member is so positioned as to open towards a portion of the circumferentially extending groove in the inner race.

18. The air/oil lubricating structure for the rolling bearing assembly as claimed in Claim 14, wherein the rolling bearing assembly is a cylindrical roller bearing having a roller retainer for retaining rollers, the position of a large diameter portion of the inclined surface area of the inner race with respect to the axial direction of the bearing being located closer to the raceway than to an end face of the roller retainer adjacent the nozzle member.

19. A spindle device for supporting a spindle of a machine tool, wherein the spindle is supported relative to a housing by means of front and rear rolling bearings; wherein the rear rolling bearing is employed in the form of a cylindrical roller bearing with its inner race having a collar; and wherein the air/oil lubricating structure for the rolling bearing assembly as defined in Claim 14 is employed in the rear rolling bearing, with the nozzle member arranged on a front side of the rear rolling bearing.